

IUBMB Enzyme Nomenclature

EC 1.2.3.3

Recommended name: pyruvate oxidase

Reaction: pyruvate + phosphate + O₂ + H₂O = acetyl phosphate + CO₂ + H₂O₂

Other name(s): pyruvic oxidase

Systematic name: pyruvate: oxygen 2-oxidoreductase (phosphorylating)

Comments: A flavoprotein (FAD) requiring thiamin diphosphate.

Links to other databases: [BRENDA](#), [EXPASY](#), [KEGG](#), [WIT](#), CAS registry number: 9001-96-1

References:

1. Koland, J.G. and Gennis, R.B. Identification of an active site cysteine residue in *Escherichia coli* pyruvate oxidase. *J. Biol. Chem.* 257 (1982) 6023-6027. [Medline UI: [82189960](#)]
2. Williams, F.R. and Hager, L.P. Crystalline flavin pyruvate oxidase from *Escherichia coli*. I. Isolation and properties of the flavoprotein. *Arch. Biochem. Biophys.* 116 (1966) 168-176. [Medline UI: [67122780](#)]

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